

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1, 2, 4, 5, and 7-13, CANCEL claim 6, and ADD new claims 14 and 15 in accordance with the following:

1. (CURRENTLY AMENDED) An optical device, comprising:

~~a substrate having a first surface and a second surface, wherein said substrate is fixed via the first surface to a fixing material having substantially the same thermal expansion coefficient as the substrate;~~

~~a first multi-layer film with a first refractive index, that is formed on at the first surface of the substrate;~~

~~a second multi-layer film with a second refractive index, that is formed on at the second surface of the substrate; and~~

~~a stress correction film formed on the first or second multi-layer film second surface, correcting the distortion of the substrate that is due to the difference in stress between the first and second multi-layer films formed on the first and second film surfaces, respectively.~~

2. (CURRENTLY AMENDED) The optical device according to claim 1, wherein

~~said stress correction film is transparent ~~for~~ to light with a specific wavelength, and the optical film thickness is an integral multiple of one half of the specific wavelength.~~

3. (ORIGINAL) The optical device according to claim 1, wherein

~~said stress correction film is made of SiO₂.~~

4. (CURRENTLY AMENDED) The optical device according to claim 1, wherein

~~said stress correction film maintains the profile irregularity of the substrate at a value of one wavelength or less.~~

5. (CURRENTLY AMENDED) The optical device according to claim 1, comprising:

~~a VIPA optical element further comprising:~~

said substrate being a plate that is transparent ~~for~~^{to} light with a specific wavelength;
said first multi-layer film;
said second multi-layer film; and
said stress correction film maintaining the VIPA optical element ~~flat~~substantially planar,

and

a mirror reflecting and returning the spectral components of light separated by the VIPA optical element to the VIPA optical element, wherein

a dispersion compensator is realized by using said VIPA optical element and said mirror.

6. (CANCELLED)

7. (CURRENTLY AMENDED) The optical device according to claim 6₁, wherein said fixing material is made of transparent glass or semiconductor.

8. (CURRENTLY AMENDED) The optical device according to claim 6₁, wherein said fixing material is made of opaque metal or ceramic.

9. (CURRENTLY AMENDED) The optical device according to claim 6₁, wherein said fixing material is made of copper-tungsten alloy, Kovar alloy, alumina, or BeO.

10. (CURRENTLY AMENDED) The optical device according to claim 6₁, wherein said substrate ~~comprising said first and second films and said stress correction film~~ is fixed on said fixing material by organic adhesives, metallic soldering, or low melting point glass.

11. (CURRENTLY AMENDED) The optical device according to claim 6₁, wherein said substrate ~~comprising said first and second films and said stress correction film~~ is fixed on said fixing material at a plurality of points.

12. (CURRENTLY AMENDED) The optical device according to claim 6₁, wherein said substrate ~~comprising said first and second films and said stress correction film~~ is optically jointsconnected with said fixing material.

13. (CURRENTLY AMENDED) The optical device according to claim 12, wherein the material of the optically jointsconnected surfaces is made of SiO₂.

14. (NEW) A method for correcting distortion in an optical element, wherein the optical element includes a substrate having a first surface and a second surface, a first multi-layer film, a second multi-layer film, and a stress correction film, said method comprising:

fixing said substrate via the first surface to a fixing material having substantially the same thermal expansion coefficient as said substrate;

forming a first multi-layer film on the first surface of the substrate;

forming a second multi-layer film on the second surface of the substrate; and

forming a stress correction film on the second surface, correcting distortion of the substrate due to a difference in stress between the first and second multi-layer films formed on the first and second surfaces, respectively.

15. (NEW) An optical device, comprising:

a substrate having a first surface and a second surface, wherein said substrate is fixed via the first surface to a fixing material having substantially the same thermal expansion coefficient as the substrate;

a first film formed on the first surface of the substrate;

a second film formed on the second surface of the substrate; and

a stress correction film formed on the second surface, correcting distortion of the substrate due to a difference in stress between the first and second films formed on the first and second surfaces, respectively.